Remarks

The Office Action mailed June 17, 2005 has been carefully reviewed and the foregoing amendment and following remarks are made in consequence thereof.

Claims 1-25 are now pending in this application. Claims 1-3, 7-12, 16-20, and 24 stand rejected. Claims 4-6, 13-15, 21-23, and 25 are objected to. Claims 6, 15, and 23 have been canceled.

The rejection of Claims 1-3, 10-12, 18-20, and 24 under 35 U.S.C. §102(e) as being anticipated by Acar et al. (U.S. Pat. App. 2004/0136584) "Acar" is respectfully traversed.

Acar describes an automatic method for the registration of prone and supine computed tomographic colonography data that includes determining (centralized) paths or axes of the colon from which relatively stationary points of the colon are matched for both supine and prone positions, stretching and/or shrinking of either the supine or prone path to perform registration of these points in an iterative and recursive manner until one or more decision criteria are met.

Claim 1 recites a method of performing a colon exam including "obtaining at least two initial Computed Tomography (CT) datasets...extracting colon automatically from the CT datasets...synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon...displaying a plurality of obtained and synthesized views of the colon simultaneously...synchronizing the views."

Acar does not describe or suggest a method of performing a colon exam as recited in Claim 1. Specifically, Acar does not describe or suggest a method including synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. Rather, in contrast to the present invention, Acar describes registering image data from two tubular structures by selecting landmarks in each structure, identifying corresponding landmarks in each structures, and stretching or shrinking the structures until the corresponding landmarks in the structures coincide along respective paths, but Acar does not describe or suggest synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. For at least the reasons set forth above, Applicants respectfully submit that Claim 1 is patentable over Acar.

8

Claims 2 and 3 depend from independent Claim 1. When the recitations of Claims 2 and 3 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2 and 3 likewise are patentable over Acar.

Claim 10 recites a computer readable medium encoded with a program configured to instruct a computer to "obtain at least two initial Computed Tomography (CT) datasets...extract colon automatically from the CT datasets...synthesize the views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon...display the obtained and synthesized views simultaneously...synchronize the views."

Acar does not describe or suggest a method of performing a colon exam as recited in Claim 10. Specifically, Acar does not describe or suggest a computer readable medium encoded with a program configured to instruct a computer to synthesize the views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. Rather, in contrast to the present invention, Acar describes registering image data from two tubular structures by selecting landmarks in each structure, identifying corresponding landmarks in each structures, and stretching or shrinking the structures until the corresponding landmarks in the structures coincide along respective paths, but Acar does not describe or suggest synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. For at least the reasons set forth above, Applicants respectfully submit that Claim 10 is patentable over Acar.

Claims 11 and 12 depend from independent Claim 10. When the recitations of Claims 11 and 12 are considered in combination with the recitations of Claim 10, Applicants submit that dependent Claims 11 and 12 likewise are patentable over Acar.

Claim 18 recites a Computed Tomography (CT) System including "a radiation source...a radiation detector...a computer coupled to said radiation source and said radiation detector, said computer configured to...obtain at least two initial Computed Tomography (CT) datasets...extract colon automatically from the CT datasets...synthesize the views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon...display the obtained and synthesized views simultaneously...synchronize the views."

9

Acar does not describe or suggest a method of performing a colon exam as recited in Claim 18. Specifically, Acar does not describe or suggest a computer readable medium encoded with a program configured to instruct a computer to synthesize the views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. Rather, in contrast to the present invention, Acar describes registering image data from two tubular structures by selecting landmarks in each structure, identifying corresponding landmarks in each structures, and stretching or shrinking the structures until the corresponding landmarks in the structures coincide along respective paths, but Acar does not describe or suggest synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. For at least the reasons set forth above, Applicants respectfully submit that Claim 18 is patentable over Acar.

Claims 19, 20 and 24 depend from independent Claim 18. When the recitations of Claims 19, 20 and 24 are considered in combination with the recitations of Claim 18, Applicants submit that dependent Claims 19, 20 and 24 likewise are patentable over Acar.

For at least the reasons set forth above, Applicants respectfully request that the Section 102 rejection of Claims 1-3, 10-12, 18-20, and 24 be withdrawn.

The rejection of Claims 7-9, 16 and 17 under 35 U.S.C. § 103 as being unpatentable over Acar et al. (U.S. Pat. App. 2004/0136584) "Acar" is respectfully traversed.

Applicant respectfully submits that the Section 103 rejection of Claims 7-9 and 16-17 is not a proper rejection. The mere assertion that such an apparatus would have been obvious to one of ordinary skill in the art does not support a prima facie obvious rejection. Rather, each allegation of what would have been an obvious matter of design choice must always be supported by citation to some reference work recognized as standard in the pertinent art, and the Applicant given an opportunity to challenge the correctness of the assertion or the repute of the cited reference. Applicant has not been provided with the citation to any reference supporting the modification made in the rejection. The rejection, therefore, fails to provide the Applicant with a fair opportunity to respond to the rejection, and fails to provide the Applicant with the opportunity to challenge the correctness of the rejection. Therefore, Applicant respectfully request that the Section 103 rejection of Claims 7-9 and 16-17 be withdrawn.

Moreover, Applicant respectfully submits that obviousness cannot be established by merely suggesting that it would have been an obvious to one of ordinary skill in the art to modify Acar. More specifically, it is respectfully submitted that a prima facie case of obviousness has not been established. As explained by the Federal Circuit, "to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant." In re Kotzab, 54 USPQ2d 1308, 1316 (Fed. Cir. 2000). MPEP 2143.01.

Moreover, the Federal Circuit has determined that:

> [I]t is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious. This court has previously stated that "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention."

In re Fitch, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). Further, under Section 103, "it is impermissible . . . to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." In re Wesslau, 147 USPQ 391, 393 (CCPA 1965). Rather, there must be some suggestion, outside of Applicant's disclosure, in the prior art to combine such references, and a reasonable expectation of success must be both found in the prior art, and not based on Applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1436 (Fed. Cir. 1991).

In the present case, neither a suggestion nor motivation to modify the cited art, nor any reasonable expectation of success has been shown. Rather, because there is no teaching nor suggestion in the cited art for the claimed modification, the Section 103 rejection appears to be based on a hindsight reconstruction in which isolated portions of Acar have been picked and chosen in an attempt to deprecate the present invention. Of course, such a combination is impermissible, and for this reason alone, Applicant requests that the Section 103 rejection of Claims 7-9 and 16-17 be withdrawn.

11

Further, and to the extent understood, Acar does not describe nor suggest the claimed modification, and as such, the presently pending claims are patentably distinguishable from Acar. Specifically, Claim 1 recites a method of performing a colon exam including "obtaining at least two initial Computed Tomography (CT) datasets...extracting colon automatically from the CT datasets...synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon...displaying a plurality of obtained and synthesized views of the colon simultaneously...synchronizing the views."

Acar does not describe or suggest a method of performing a colon exam as recited in Claim 1. Specifically, Acar does not describe or suggest a method including synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. Rather, in contrast to the present invention, Acar describes registering image data from two tubular structures by selecting landmarks in each structure, identifying corresponding landmarks in each structures, and stretching or shrinking the structures until the corresponding landmarks in the structures coincide along respective paths, but Acar does not describe or suggest synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. For at least the reasons set forth above, Applicants respectfully submit that Claim 1 is patentable over Acar.

Claims 7-9 depend from independent Claim 1. When the recitations of Claims 7-9 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 7-9 likewise are patentable over Acar.

Claim 10 recites a computer readable medium encoded with a program configured to instruct a computer to "obtain at least two initial Computed Tomography (CT) datasets...extract colon automatically from the CT datasets...synthesize the views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon...display the obtained and synthesized views simultaneously...synchronize the views."

Acar does not describe or suggest a method of performing a colon exam as recited in Claim 10. Specifically, Acar does not describe or suggest a computer readable medium encoded with a program configured to instruct a computer to synthesize the views of the

extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. Rather, in contrast to the present invention, Acar describes registering image data from two tubular structures by selecting landmarks in each structure, identifying corresponding landmarks in each structures, and stretching or shrinking the structures until the corresponding landmarks in the structures coincide along respective paths, but Acar does not describe or suggest synthesizing views of the extracted colon by performing a 3D to 2D mapping to generate a 360-degrees unfolded view of an inner wall of the colon. For at least the reasons set forth above, Applicants respectfully submit that Claim 10 is patentable over Acar.
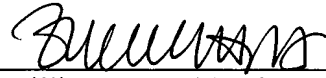
Claims 16 and 17 depend from independent Claim 10. When the recitations of Claims 16 and 17 are considered in combination with the recitations of Claim 10, Applicants submit that dependent Claims 16 and 17 likewise are patentable over Acar.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 7-9, 16 and 17 be withdrawn.

Claims 4-6, 13-15, 21-23, and 25 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The objection to Claims 4-6, 13-15, 21-23, and 25 as dependent upon rejected base claims is respectfully traversed. For the reasons set forth above, it is respectfully submitted that the respective base claims of Claims 4-6, 13-15, 21-23, and 25 are patentable over the cited art. When the recitations of Claims 4-6, 13-15, 21-23, and 25 are considered in combination with the recitations of their respective base claims, it is submitted that Claims 4-6, 13-15, 21-23, and 25 are likewise patentable over the cited art. Applicants according request that the objection to Claims 4-6, 13-15, 21-23, and 25 be withdrawn.

In view of the foregoing amendments and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,

William J. Zychlewicz
Registration No. 51,366
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070